

PM 32

5785-79

12-1

**LIQUIBROM 4300**

FOR USE AS A DISINFECTANT, SANITIZER, BACTERICIDE,  
SLIMICIDE, AND ALGICIDE IN RECIRCULATING COOLING  
WATER SYSTEMS, ONCE THROUGH COOLING WATER  
AND WASTEWATER TREATMENT SYSTEMS,  
AND PULP AND PAPER MILLS

**Active Ingredient:**

Sodium bromide ..... 42.8%

Inert Ingredients ..... 57.2%

TOTAL ..... 100%

**KEEP OUT OF REACH OF CHILDREN**

**WARNING**

**STATEMENT OF PRACTICAL TREATMENT**

**Eye Contact:** Flush eyes with cold water for at least 15 minutes. If irritation persists, seek medical attention immediately.

**Skin Contact:** Prolonged contact can produce skin irritation. If skin contact occurs, wash with cold water for 15 minutes.

**SEE ADDITIONAL PRECAUTIONARY STATEMENTS ON SIDE PANEL**

NET WEIGHT: \_\_\_\_\_

EPA REG. NO. 5785-79

LOT NUMBER: \_\_\_\_\_

EPA EST. NO. 5785-AR-1

**GREAT LAKES CHEMICAL CORPORATION  
WEST LAFAYETTE, IN 47906**

GLK-79-D

LIQUIBROM  
1991  
5785-79

## PRECAUTIONARY STATEMENTS

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS. WARNING.** Irritation may develop from eye and skin exposure. Avoid contact with eyes. Wear gloves and safety goggles. Wash contaminated clothing before reuse.

**ENVIRONMENTAL HAZARDS.** Do not discharge into lakes, streams, ponds or public water unless in accordance with an NPDES permit. For guidance, contact your regional office of EPA.

**PHYSICAL AND CHEMICAL HAZARDS.** LIQUIBROM 4300 is not flammable. However, in fires fueled by other materials, hydrogen bromide or bromine may be released. In case of fire, wear self-contained breathing apparatus.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

## STORAGE AND DISPOSAL

**STORAGE.** Keep product in tightly closed original container when not in use. Store in a dry, well ventilated area. Product should be stored at 50 F. or above.

**DISPOSAL.** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Triple rinse the container (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incinerate. Burn only if allowed by state and local authorities. If burned, stay out of smoke.

**RECIRCULATING COOLING WATER SYSTEMS.** When used as directed, LIQUIBROM 4300 effectively controls algae, bacterial, and fungal slimes in commercial and industrial cooling towers; influent water systems such as flow through filters; heat exchange water systems; and industrial water scrubbing systems.

**DOSAGE RATES.** Add LIQUIBROM 4300 to the system at a 0.125 to 2.0 sodium bromide/oxidant mole ratio. For example:

- 1) 1.8 to 23.0 pounds of chlorine gas (99.9%) per gallon of sodium bromide solution;
- 2) 1.4 to 23.2 gallons sodium hypochlorite (12.5% available chlorine) solution per gallon of sodium bromide solution

Initial Dose: When the system is noticeably fouled, add 0.0003 to 0.022 gallons of LIQUIBROM 4300 solution per 1000 gallons of water contained in the system and oxidize with either gas chlorine (0.008 to 0.042 lbs. gas chlorine per 1000 gallons of contained water), or sodium hypochlorite solution (0.007 to 0.034 gallons of 12.5% sodium hypochlorite solution per 1000 gallons of contained water)

Subsequent Dose. When microbial control is evident, add 0.00014 to 0.022 gallons of LIQUIBROM 4300

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solution per 1000 gallons of water contained in the system, and oxidize with either gas chlorine (0.004 to 0.042 lbs. gas chlorine per 1000 gallons of contained water), or sodium hypochlorite solution (0.003 to 0.034 gallons of 12.5% sodium hypochlorite solution per 1000 gallons of contained water).

**ONCE-THROUGH COOLING WATER AND WASTEWATER TREATMENT SYSTEMS.** When used as directed, LIQUIBROM 4300 effectively controls algae, bacterial and fungal slimes in once-through fresh and sea water cooling systems and disinfects secondary and tertiary wastewater treatment systems.

**DOSAGE RATES.** Add LIQUIBROM 4300 solution to the system at a 0.125 to 2.0 sodium bromide/oxidant mole ratio. For example:

- 1) 1.8 to 29.0 pounds of chlorine gas (99.9%) per gallon of sodium bromide solution;
- 2) 1.4 to 23.2 gallons sodium hypochlorite (12.5% available chlorine) per gallon of sodium bromide solution.

Initial Dose. When the system is noticeably fouled, add 0.0007 to 0.044 gallons of LIQUIBROM 4300 per 1000 gallons of water contained in the system, and oxidize with either gas chlorine (0.02 to 0.08 lbs. gas chlorine per 1000 gallons contained volume), or sodium hypochlorite solution (0.02 to 0.07 gallons 12.5% sodium hypochlorite solution per 1000 gallons contained volume).

Subsequent Dose. When microbial control is evident, add 0.0003 to 0.044 gallons LIQUIBROM 4300 solution per 1000 gallons of water contained in the system, and oxidize with either gas chlorine (0.008 to 0.08 lbs. gas chlorine per 1000 gallons contained volume), or sodium hypochlorite solution (0.006 to 0.07 gallons 12.5% sodium hypochlorite solution per 1000 gallons contained volume).

**PULP AND PAPER MILLS.** When used as directed, Liquibrom 4300 effectively controls algal, bacterial, and fungal slime in pulp and paper mill fresh and sea water influent water systems, cooling water systems, wastewater treatment systems, nonpotable water systems, and other process water.

**Dosage Rates.** Add Liquibrom 4300 solution to the system at a 0.125 to 2.0 sodium bromide/oxidant mole ratio. For example:

- 1) 1.8 to 29.0 pounds of chlorine gas (99.9%) per gallon of sodium bromide solution;
- 2) 1.4 to 23.2 gallons of sodium hypochlorite (12.5% available chlorine) solution per gallon of sodium bromide solution.

Add sufficient Liquibrom 4300 and oxidize with either gas chlorine or sodium hypochlorite solution to achieve a residual bromine level of 0.5 to 5 ppm or as needed to maintain control of the system. Liquibrom 4300 can be added whenever chlorination is applied.

Feed LIQUIBROM 4300 either before or after the oxidant injection point into the water to be treated. Be sure rapid mixing of the treated water, LIQUIBROM 4300 and oxidant is achieved. Pump manufacturers can recommend the appropriate materials of construction and capacity for a pump to feed LIQUIBROM 4300 or sodium hypochlorite solution. If used as the oxidant, chlorine gas must be handled and used only in accordance with practices recommended in The Chlorine Manual published by the Chlorine Institute, Inc., New York. Use chlorine gas only in well ventilated areas.

Treatment levels of LIQUIBROM 4300 and oxidant can best be measured with test kits for either bromine or chlorine. Tests should be made immediately after drawing water samples from the system. Use test kits according to directions.

1. When a bromine test kit is used, results can be read directly as ppm bromine.
2. When a chlorine test kit is used, results can be expressed in terms of bromine by multiplying chlorine values by the conversion factor 2.25.

LiquiBrom 4300 weighs 12.2 lbs/gal at 70° F.

NOTE: Seller warrants that this product complies with the specifications expressed in this label. Seller makes no other warranties; and disclaims all other warranties, express or implied, including but not limited to warranties of merchantability and fitness for the intended purpose. Seller's liability for default, breach, or failure under this label shall be limited to the amount of the purchase price. Seller shall have no liability for consequential damages.